NATIONAL WEATHER SERVICE TUCSON, ARIZONA

Fall/Winter 2012-2013

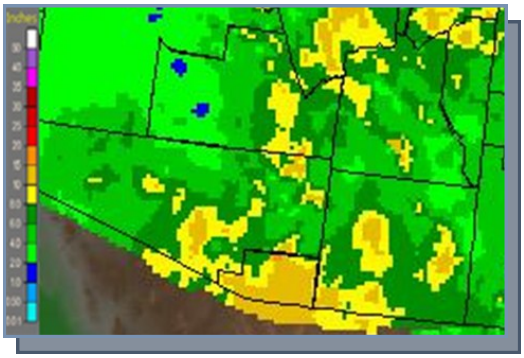
Volume 18, Issue 2

Coyote Crier

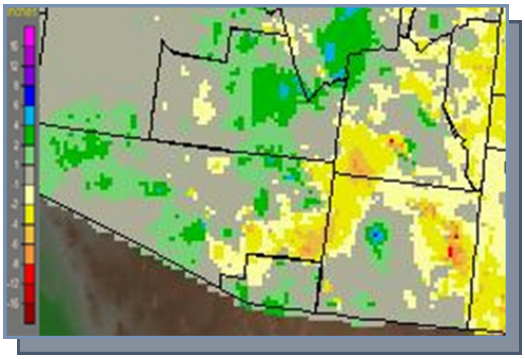
Summary of the 2012 Monsoon

By John Glueck, Senior Forecaster and Climate Focal Point

The two images below show estimated rainfall across the southeast Arizona (left) and the departure from normal (right). The highest cumulative rainfall totals (left image: yellow and orange) were along the International border, central Cochise county and north of Tucson. The image on the right shows that areas east and south of Tucson recorded below normal rainfall (yellow to red) for Monsoon 2012.



Estimated 2012 Monsoon rainfall across southeast Arizona



Departure from normal

Green/Blue=wet; Gray=normal; Yellow/Red=dry

Inside this issue:

Location	2012 Monsoon rainfall	Location	2012 Monsoon rainfall
Tucson Intn'l air-port	6.02"	Nogales	6.44"
Green Valley	6.63"	Tumacacori N.M.	5.73"
Vail	7.54"	Benson	5.94"
Anvil Ranch	8.37"	Bisbee	8.17"
Kitt Peak	10.27"	Douglas	6.51"
Sasabe	8.03'	Hereford	12.39"
Ajo	7.31"	McNeal	5.62"
Organ Pipe Cactus N.M.	5.10"	Pearce-Sunsites	5.09"
Oracle	9.89"	Portal	7.04'
San Manuel	4.69'	San Simon	4.19"
Kearny	6.06"	Sierra Vista	7.76"
Picacho Peak	3.06"	Tombstone	7.62"
Safford	5.69"	Willcox	8.77"
Fort Thomas	4.04'	Clifton	5.80"

What Is Expected This Winter?

By Glen Sampson, Meteorologist-In-Charge

Will winter 2013 be wet or dry; cold or warm? The answer to these questions is rarely a definitive wet and cold or warm and dry. Most winter season outlooks are based on sea surface temperatures, which for the Pacific Ocean are defined as a La Niña or an El Niño. El Niño refers to warmer sea temperatures in the eastern Pacific, and more winter precipitation for the Southwest. La Niña refers to cooler sea surface temperatures in the eastern Pacific, and less winter precipitation for the Southwest. The sea surface temperatures affect the amount of winter precipitation we receive by influencing the location of the jet stream. Unfortunately sea surface temperatures do not lock down the jet stream, but rather shift the frequency of storms from one area to another. Figure 1 depicts the El Niño and La Niña weather patterns and the resulting predominant winter weather conditions across the United States.

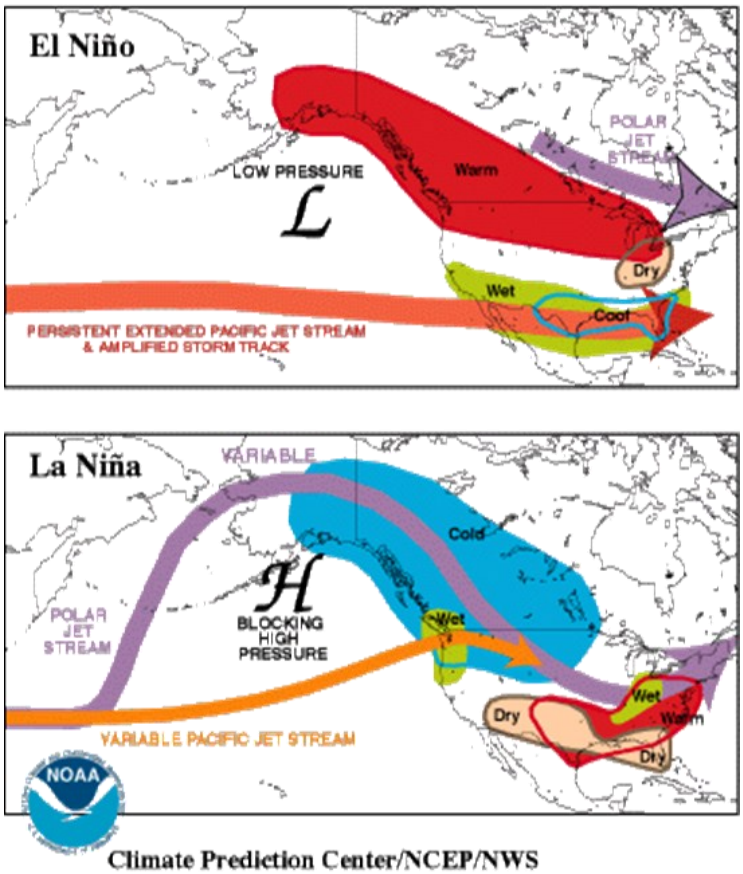


Figure 1 - El Nino (top) and La Nina (bottom) winter weather patterns across the U.S.

"The sea surface temperatures affect the amount of winter precipitation we receive by influencing the location of the jet stream."

Currently a very weak El Niño is being observed; however the climate forecasts indicate these conditions are short lived. Most of the winter will have neutral sea surface temperatures across the Pacific. Neutral conditions lead to a forecast of equal chances for above, below and near average precipitation conditions. The temperature and precipitation outlooks for December-January-February are shown in Figures 2 and 3.

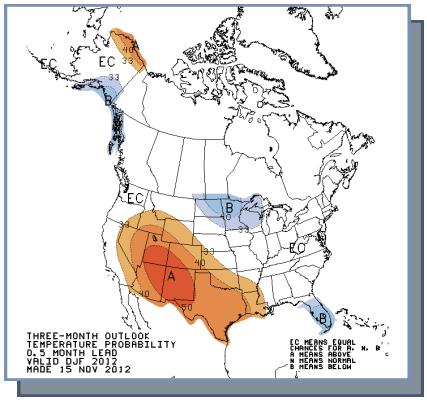


Figure 2 - December-January-February temperature outlook with above average temperatures favored over most of the West.

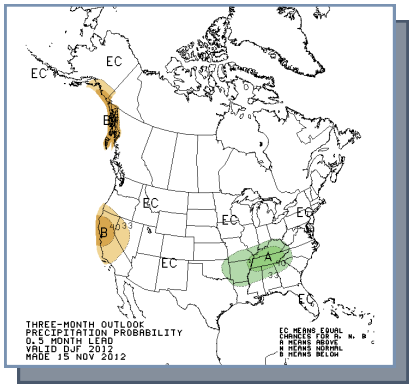


Figure 3 - December-January-February precipitation outlook with equal chances of above, below or near average precipitation over the Southwest.

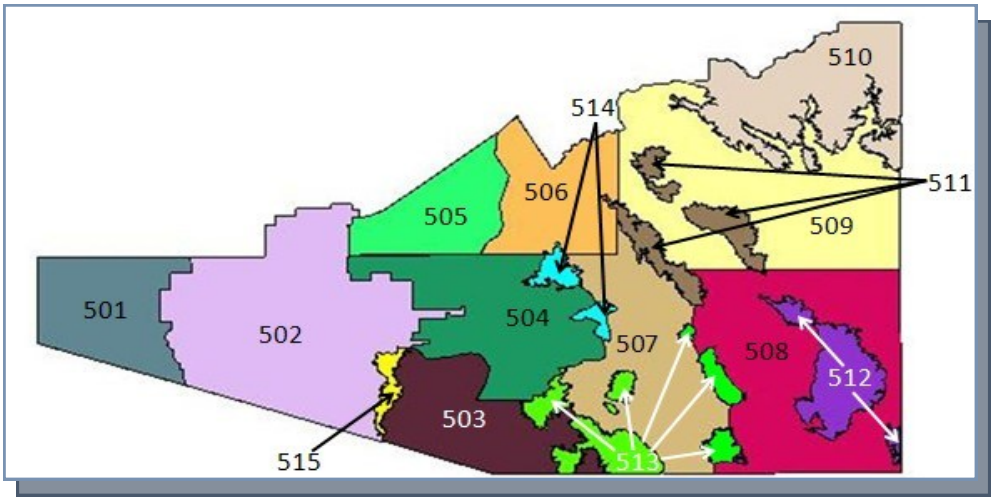
Slightly New Snow Accumulation Criteria for this Winter

By Ken Drozd, Warning and Coordination Meteorologist

Elevation	Winter Storm Warning	Winter Weather Advisory
Above 7,000 ft Zones 510-515	12” or more	6” or more but <12”
5,000'-7,000 ft Zones 510-515	6” or more	3” or more but < 6”
Below 5,000 ft Zones 501-509	3” or more	1” or more but < 3”

The new snow criteria are less complicated than what was used in the past but attempt to better relate to impacts for the various elevations. Warnings and advisories are normally based on snow accumulations upon road surfaces. Warnings and advisories may also be issued for lower snow amounts when strong winds are forecast to produce significant blowing and drifting snow or at other times when snow is expected to melt as it falls but refreeze on road surfaces.

“Warnings and advisories may also be issued for lower snow amounts when strong winds are forecast to produce significant blowing and drifting snow…”



Map to the left shows National Weather Service Tucson Public Forecast Zones in Southeast Arizona.

The National Weather Service in Tucson Goes 'Green'

By Christopher Carney, Electronics Systems Analyst

The National Weather Service contracted with Argent Solar Electric to construct a 12.25 kW PV project for its Radar Data Acquisition site at Vail, Arizona. The system will help power the Tucson NWS radar monitoring equipment and communication facilities.

The site is on a mountain-top southeast of Tucson. The system consists of 50 SolarWorld 245-watt panels with a Solectria PVI 13, 3-phase inverter. The panels are mounted to a bleacher-style structure anchored into the rock. Argent used excavators and jack-hammers to dig 14, 4- foot deep core footings along 100 feet of hillside. Arizona Concrete provided 5 cubic yards of concrete for the project with a maximum strength of 4000 PSI. The impacted area was restored with a layer of gravel and rock. The system will generate 21,000 kW hours ac of electricity a year.

Construction commenced October 18, 2010 at 9:00 AM. The field work was completed October 25. Interconnection by Tucson Electric Power occurred on November 8,2010 at 10:30AM.

The 12.25 kW PV is a commercial, 3-phase grid-tied PV inverter designed to be inter-connected to the electric utility grid. Feeding power into the grid involves conversion of the DC-voltage from the PY-array to grid compatible AC-voltage by "inverting" DC to AC. This unit feeds power into a standard 208V AC, 3phase commercial, industrial facility's electrical system which is connected to the electrical grid.

If the PV system and inverter are providing the same amount of electrical power that the facility is using then no power is taken from or fed into the utility grid. If the facility is using more power than the PY system is providing, then the utility grid provides the balance of power. If the facility is using less power than the PV system is generating, then the excess is fed into the utility grid.

"The system will help power the Tucson NWS radar equipment and communications facilities."

The National Weather Service in Tucson Embraces Social Media

By Glenn Lader, General Forecaster

The National Weather Service in Tucson continues to expand our Social Media outreach to the public. For those of you that are unfamiliar with Social Media, we use internet applications such as Facebook and Twitter to communicate and share content with our customers. Facebook is a large community with about 1 billion users worldwide while Twitter claims about a half billion accounts across the globe.

The great thing about Social Media applications like Facebook is that the interaction is a two way street. Not only do we share our latest content including interesting weather tidbits, climate information, and current weather stories but you and other users can provide immediate feedback to the NWS and at the same time exchange information with each other.

Users are always invited to submit content including weather photos to our Facebook page. We started our Facebook page in April 2011 and with your help we are now up to over 1,000 "likes".

Meanwhile, Twitter is considered a micro blogging service, such that each post generated is limited to 140 characters or less. We started our Twitter account sending "Tweets" in May and are now up well over 300 followers. While some of the content is similar to that of Facebook, we have also used twitter to send out quick updates during the monsoon to give the public a quick heads up of more active weather about to move in. It is also very easy for Twitter users to share our message to other Twitter users. This "re-tweeting" of messages makes Twitter a very powerful method of distributing information. In addition to reporting severe weather via traditional methods such as calling the office or using e-spotter, we also welcome severe weather reports reports via Twitter. Even though we can't always monitor social media in real-time, these are helpful to us and the general weather community across Southeast Arizona.

NWS Tucson Facebook page can be accessed at:

https://www.facebook.com/US.NationalWeatherService.Tucson.gov

NWS Tucson Twitter account can be accessed at:

http://www.twitter.com/NWSTucson

"The great thing about social media applications like Facebook is that the interaction is a two way street."

Phone Numbers to call for spotter reports:

1-800-238-3747

or

(520) 670-5162

Three New Employees Make NWS Tucson Their Home

Growing up I experienced many different weather events, ranging from cold weather in North Dakota to typhoons in Guam, with some southern Arizona thunderstorms and even a couple of Texas Panhandle Tornadic Supercells thrown in. Still, even with all of those events I still hadn't caught the weather bug just yet. Instead, I join the US Army Reserves three days after I turned 17 to become a concrete and asphalt equipment operator and maybe pay for college. However, I wouldn't start college until after returning from deployment, though it still would be a couple of years before I found out that there was a degree in Meteorology. However, once I did I transferred to Texas A&M University, where I finished my degree, which led me to the Texas Panhandle as a Student Career Employee of the National Weather Service, in Amarillo, TX. After graduation, I took an Intern Meteorologist position at the Lubbock, TX office where I spent three years further gaining experience. I am very happy to be back in Tucson now after my 21 year hiatus.

Jerald Meadows, General Forecaster

Ricardo Humphreys, Meteorologist Intern

I have been interested in meteorology for as long as I can remember, around age 10 I became a certified spotter. After a tree was hit by lightning in my back yard it was all down hill from there, it became my goal in life to become a meteorologist. Though it took some time and hard work it eventually paid off. While in school at the University of Washington I began work at the National Weather Service in Seattle as a SCEP. Upon graduating top of my class I was hired to work here at the NWS Tucson office.

Since arriving here in Tucson I have finally been able to enjoy some of my favorite things such as astronomy, golf and photography (None of which I had been able to enjoy for some time due to the abundance of rain in Seattle).

I look forward to learning from the vast experience of the meteorologists here at the Tucson office as well as enjoying the sunshine and plethora of outdoor activities.

"These three new team members will make great additions to the NWS Tucson family"

Three New Employees Make NWS Tucson Their Home

Carl Cerniglia, General Forecaster

As a child growing up in the northeast part of the country, I became fascinated with the weather at a young age, especially winter snowstorms and summer thunderstorms. At eight years old I decided that I was "going to be a weather man when I grow up." With that in mind I entered the Atmospheric Science program at the University of Albany in New York in 1984.

During the summer of 1987 I worked as a student intern at the NWS office in Reno NV and after graduating in 1988 I started my career in the NWS as an intern at the Glasgow, MT office. After two years taking surface and upper air observations, I transferred to the Seattle WA office for the next four years where I gained experience with public, aviation and marine forecasting in the Pacific Northwest. I was then promoted to a forecaster position in the Portland ME forecast office in 1994 before being transferred to the Albany NY office in 1996. In those offices I took an interest in researching severe thunderstorms and in a rather pretty lady whom I was lucky to marry.

In 2002, we decided to head west and I was transferred to the Seattle office once again. After a few years of settling in, I trained to become a fire weather forecaster and Incident Meteorologist (IMET) as I was interested in the enhanced challenges of forecasting in a fire environment and with working with our "customers" face to face. After 10 years of enjoying (wife said enduring!) Seattle's wet and gloomy winters we transferred to the Tucson office this summer. Thankfully, I am still involved in the fire weather program and I look forward to the next monsoon season and its thunderstorms while my wife, son and I all look forward to the sunshine and all the outdoor activities like hiking, camping, fishing and hunting that Arizona has to offer.

"At eight years old I decided that I was going to be a weather man when I grow up."

National Weather Service Tucson Office Staff

Meteorologist in Charge…….Glen Sampson

Administrative Support Assistant…….Stephanie Spease

Warning Coordination Meteorologist…….Kenneth Drozd

Science and Operations Officer…….John Brost

Service Hydrologist…….Erin Boyle

Electronic Systems Analyst…….Chris Carney

IT Specialist…….Evelyn Bersack

Electronic Technicians……Rick Leupold, Keith Sapp

Senior Forecasters…….Jeff Davis, Brian Francis, John Glueck, Jim Meyer, Greg Mollere

General Forecasters…….Glenn Lader, Chris Rasmussen, Carl Cerniglia, Jerald Meadows, Gary Zell

Meteorologist Intern…….Ricardo Humphreys

Observation Program Leader…….Mic Sherwood

Hydrometeorological Technician…….Hans Hanson

Be looking for the Spring Edition of the Coyote Crier sometime during late March or Early April 2013. In that edition we will publish the locations, times and dates of the Spotter Training sessions. If it has been a few years since you attended a spotter training class, we recommend that you clear a space on your calendar next spring to attend one of these informative sessions.

Greg Mollere, Senior Forecaster and Spotter Training Coordinator

Seasons Greetings

For all your weather Information needs,

Visit us on the web at:

weather.gov/tucson

What You As A Skywarn Spotter Should Report??

Tornado: A Tornado or a funnel cloud

Heavy Rain: A Half Inch or more in less than an hour

Hail: Quarter size hail (one inch) or larger

High Wind: Estimated or measured 45 mph or greater

Flooding: Any Kind of Flooding

Snow: One inch or more (2 inches if above 5000 feet)

Visibility: Less than one mile

Death/ Injury: Any weather related reason

Damage: Any weather related reason

(520) 670-5162 or 1-800-238-3747